



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,036	03/25/2004	Neil Andrew Abercrombie Simpson	CRUI/0011	5819

7590 10/21/2008
WILLIAM B. PATTERSON
MOSER, PATTERSON & SHERIDAN, L.L.P.
Suite 1500
3040 Post Oak Blvd.
Houston, TX 77056

EXAMINER

SULLIVAN, DEBRA M

ART UNIT	PAPER NUMBER
----------	--------------

3725

MAIL DATE	DELIVERY MODE
-----------	---------------

10/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/809,036	Applicant(s) SIMPSON ET AL.	
	Examiner Debra M. Sullivan	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) 8, 11, 16, 19, 27, 33, 35, 36, 39, 40, 46, 49, 82 and 92-94 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 1-3,5-21,26-41,43,44,46,48-55,82-86,90-101,103-105,107-109 and 111-115.

Continuation of Disposition of Claims: Claims rejected are 1-3,5-7,9,10,12-15,17,18,20,21,26,28-32,34,37,38,41,43,44,48,50-55,83-86,90,91,95-101,103-105,107-109 and 111-115.



FINAL REJECTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3, 5-7, 9, 10, 12-15, 17, 18, 20, 21, 28-31, 34, 38, 41-44, 48, 50-55, 90, 91, 95 and 112 are rejected under 35 U.S.C. 102(e) as being anticipated by Burge (US 2005/0145390). Burge discloses a method for expanding tubular members comprising the steps of locating an expansion device (14) on a workstring (20) in tubing (12) to be expanded, creating a vibration with fluid flowing through at least one of the expansion device (14) and tubing (12), vibrating at least one of the tubing (12) and the expansion device (14) and translating the expansion device (14) and the workstring (20) relative to the tubing (12) by applying a constant driving force thereby expanding the tubing (12) [see paragraphs 0006, 0009 and 0041].

In reference to claims 2 and 3, the vibration of the at least one of the tubing (12) and the expansion device (14) to minimize static friction between contacting surfaces of the expansion device (14) and the tubing (12) [See paragraph 0053].

In reference to claim 5, the driving force remains constant as the expansion device (14) is translated through the tubing (12) [See paragraph 0041].



In reference to claim 6, a direction of the vibration is multi-directional [See paragraph 0009].

In reference to claims 7, 9, 10, 12-15 and 18, Burge further discloses the expansion device (14) being subject to vibration [See paragraph 0053] in addition to the tubing (12) being subject to vibration that induces physical movement of the tubing [See paragraph 0044].

In reference to claim 17, the vibration takes the form of at least one wave traveling through at least one of the expansion device (14) and the tubing (12).

In reference to claim 20, Burge further discloses creating the vibration with a moving mass (fluid) [See paragraph 0012].

In reference to claim 21, Burge further discloses providing a varying restriction through at least one of the expansion device (14) [See paragraph 0040]

In reference to claim 26, Burge discloses a source of vibration (16) is coupled to the tubing (12) [See paragraph 0032].

In reference to claim 28, the source of vibration (16) is indirectly coupled to the expansion device (14) through the tubular (12) [See paragraph 0032].

In reference to claims 29-31, 34, 38, 41, Burge further discloses the amplitude and the frequency to be constant thus forming a constant vibration [See paragraph 0036].

In reference to claims 43 and 44, the driving force is a mechanical driving force (pump) that provides a pushing force on the expansion device (14) [See paragraph 0041].

In reference to claims 48 and 50, the expansion device (14) is translated axially relative to the tubing (12) thus creating a localized compressive yield in the tubing wall, as see in figure 1.



In reference to claim 51, the expansion device (14) comprises of a varying diameter, as seen in figure 1.

In reference to claims 52-54, Burge further discloses creating a pressure differential across a wall of the tubing (12) that is varied and cycled [See paragraph 0041].

In reference to claim 55, Burge further discloses isolating a volume of fluid containing the expansion device (14) [See paragraph 0041].

In reference to claim 90, Burge discloses inserting the tubing (12) into a wellbore prior to translating the expansion device (14) relative to the tubing (12).

In reference to claim 95, the driving force remains constant as the expansion device (14) is translated through the tubing (12) [See paragraph 0041].

In reference to claim 112, the tubing of Burge is plastically deformed to a larger diameter when expanding the tubing (12), as seen in figure 1.

In reference to claim 83, Burge discloses a method of expanding tubing (12), the method comprising the steps of locating an expansion device (14) in tubing (12) to be expanded, vibrating at least one of the tubing (12) and the expansion device (14), translating the expansion device (14) relative to the tubing (12) thereby expanding the tubing (12) and creating the vibration by varying a pressure of fluid operatively associated with the at least one tubing (12) and expansion device (14) [See paragraphs 0006, 0009, 0036, 0041].

In reference to claims 96 and 97, the tubing is inserted into a wellbore prior to translating the expansion device (14) relative to the tubing (12).



In reference to claims 98 and 99, a driving force is applied to translate the expansion device (14) through the tubing (12) wherein the driving force remains constant [See paragraph 0041].

In reference to claim 113, the tubing of Burge is plastically deformed to a larger diameter when expanding the tubing (12), as seen in figure 1.

In reference to claim 84, Burge discloses a method of expanding tubing (12), the method comprising the steps of locating an expansion device (14) in tubing (12) to be expanded wherein the expansion device is coupled to a workstring (20), vibrating at least one of the tubing (12) and the expansion device (14), moving the workstring (20) and the expansion device (14) relative to the tubing by applying a constant driving force thereby expanding the tubing (12) to a larger diameter, and creating vibration by creating pressure pluses in a fluid operatively associated with at least one of the expansion device (14) and the tubing (12) [See paragraphs 0039, 0041 and 0044].

In reference to claims 100 and 101, the tubing is inserted into a wellbore prior to translating the expansion device (14) relative to the tubing (12).

In reference to claim 103, the driving force remains constant as the expansion device (14) is translated through the tubing (12) [See paragraph 0041].

In reference to claim 85, Burge discloses a method of expanding tubing (12), comprising the steps of locating an expansion device (14) on a workstring (20) in tubing (12) to be expanded, vibrating at least one of the tubing (12) and the expansion device (14), translating the expansion device (14) and the workstring (20) relative to the tubing (12) thereby expanding the



tubing (12) and applying a fluid pressure driving force to translate the expansion device (14) relative to the tubing (12) [See paragraphs 0041, 0044].

In reference to claims 104 and 105, Burge further discloses inserting the tubing (12) into a wellbore prior to translating the expansion device (14) relative to the tubing (12).

In reference to claim 107, the driving force remains constant as the expansion device (14) is translated through the tubing (12) [See paragraph 0041].

In reference to claim 113, the tubing of Burge is plastically deformed to a larger diameter when expanding the tubing (12), as seen in figure 1.

In reference to claim 86, Burge discloses a method of expanding tubing (12), comprising the steps of locating an expansion device (14) in tubing (12) to be expanded, wherein the expansion device is in rolling contact with the tubing [it is noted that the expansion device is in rolling contact with the tubing since it will roll over the tubing during the expansion operation], vibrating at least one of the tubing (12) and the expansion device (14), translating the expansion device (14) relative to the tubing (12) by applying a constant driving force thereby expanding the tubing (12) to a larger diameter [See paragraphs 0041, 0044 and FIG 1].

In reference to claims 108 and 109, Burge further discloses inserting the tubing (12) into a wellbore prior to translating the expansion device (14) relative to the tubing (12).

In reference to claim 111, the driving force remains constant as the expansion device (14) is translated through the tubing (12) [See paragraph 0041].

In reference to claim 115, Burge discloses a method of expanding tubing (12), comprising the steps of isolating a portion of the tubing (12) containing an expansion device (14), applying a base pressure to the isolated portion of tubing (12), the base pressure creating a



differential pressure across a wall of the tubing (12) below the yield pressure of the tubing wall, vibrating at least one of the tubing (12) and the expansion device (14) and expanding the isolated portion of tubing utilizing the expansion device (14) [See paragraph 0041, 0044 and FIG 1].

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 32 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burge (US 2005/0145390). Burge discloses the invention substantially as claimed except for wherein the vibration is greater than 100 Hz. However, Burger does disclose that the frequency typically depends upon the size and type of tubing and therefore it may be necessary to adjust the frequency of the vibrations accordingly. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the range of the frequency to be greater than 100 Hz or within a range of 1 to 100 Hz, since it has been held that where the



general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation [*In re Aller*, 105 USPQ 233].

Response to Arguments

Applicant's arguments filed July 23, 2008 have been fully considered but they are not persuasive. Applicant argues that Burge merely discloses an expansion device 14 that expands a tubular by moving upward along a conduit 20 due to fluid pressure generated below the expansion cone 14.

The Examiner respectfully disagrees with Applicant's interpretation of Burge. In lines 1-2 of paragraph 0039 Burge discloses the expansion cone 14 is attached (e.g. by screw threads, welding or the like) to a length of conduit 20, therefore Burge discloses the expansion device and conduit move together during the expansion operation.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Sullivan whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Thursday 10am - 8pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached at (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Debra M Sullivan/
Examiner, Art Unit 3725

/Dana Ross/
Supervisory Patent Examiner, Art Unit 3725